KHRISTOFOROV, B.D. (Moskva)

Parameters of the shock wave and gas bubble in underwater explosions of low-weight tetreathylamine nitrate charges. PMTF no.2:124-127 Jl-Ag 60. (MIRA 14:6)
(Shock waves) (Underwater explosions)

KHRISTOFOROV, B.D. (Moskva)

Experimental study of the interaction of a shock wave in water with the rigid bottom of a water tank. PMTF no.4:56-59 N-D '60. (MIRA 14:7)

(Shock waves)

KHRISTOFOROV, B.D. (Moskva)

Interaction of a shock wave in water with a free surface.
PMTF no.1:30-37 Ja - F '61. (MIRA 14:6)
(Shock waves) (Underwater explosions)

1.1210
11.8200 2406
11.2121

33593
S/207/61/000/004/004/012
E032/E514

AUTHOR: Khristoforov, B.D. (Moscow)

TITLE: Parameters of the shock wave and gas bubble in the underwater explosion of charges of various densities of TEN and lead azide

PERIODICAL: Akademii nauk SSSR. Siberskoye otdeleniye. Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki. no.4, 1961, 118-127

TEXT: It is pointed out that there is no published literature on the underwater explosions of lead azide, while TEN has only been investigated for charge densities in the range of 1.6-1.54 g/cm^3 (Ref.1: Kostyuchenko V.N. PMTF, 1961, No.2; Ref.2: Khristoforov B.D. Ibid, 1960, No.2). In the present paper the author reports shock-wave and gas-bubble parameters for underwater explosions of tetranitropentaerythrite (TEN) and lead azide with charge densities of 1.6-0.4 and 1.6-0.85 g/cm^3, respectively. The aim of this work was to determine the effect of the conditions under which the energy is released as a result of the detonation on the explosion parameters. The experiments were

Card 1/4

carried out in a steel tank (1.5 x 1.5 x 1.0 m^3) filled with water and provided with glass viewing windows. The shock waves were recorded in the range 20 R_o-200 R_o with tourmaline pressure probes (sensitive area 1-2 mm in diameter), where R_o is the charge radius. The pressure probes were calibrated using TEN charges with ρ = 1.6 g/cm^3. The relation between the pressure in the shock-wave front and the distance for the latter case is known (Ref.2). The signal from the detectors was recorded oscillographically using the ПИД-9 (PID-9) apparatus which was developed at the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR). In the range 1-6 charge radii the shock-wave front was photographed using the ЖФР (ZhFR) apparatus described by A. S. Dubovik and A. I. Churbakov (Ref.3: Optikomekhanicheskaya promyshlennost', 1959, No.1). The schlieren method was employed. The motion of the gas bubble was also photographed with the ZhFR apparatus in the range 0-100 μsec. Both pressed and granular explosive charges were employed. The explosions were initiated using a manganin wire, 0.05 mm in diameter, by passing a current pulse through it. Explicit formulae are reported for:

33593

Parameters of the shock wave ... S/207/61/000/004/004/012
E032/E514

1) The pressure in the shock wave as a function of time (this was found to be an exponential);
2) The velocity of the wave front as a function of the distance from the charge;
3) The maximum pressure as a function of the distance from the charge;
4) The shock-wave time constant as a function of distance from the charge;
5) The shock-wave momentum as a function of distance from the charge;
6) The average shock-wave energy as a function of distance from the charge;
7) The gas bubble radius, expansion velocity, maximum radius and the period of the first gas-bubble pulsation.
It was found that as the density of the explosive was reduced, there was a corresponding reduction in the detonation velocity and in the initial pressure on the charge-water boundary. The initial pressure was found to change from 150 000 to 12 000 atm when a TEN charge with a density of 1.6 g/cm^3 was replaced by a lead azide

Card 3/4

charge with a density of 0.85 g/cm^3. It is noted that there are considerable departures from the energy-similarity law for the shock-wave and gas-bubble parameters. This applies not only to the region near to the charge but even in the asymptotic region. In fact, there is an energy redistribution between the shock wave and the explosion products. Acknowledgments are expressed to V. N. Kostyuchenko for discussion of the results. There are 10 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The English-language reference reads as follows: Ref.4: Rice and Wals I. Equation of state of water to 250 kilobars. The Journal of Chemical Physics, 1957, Vol.26, No.4.

SUBMITTED: May 13, 1961

31645
S/207/61/000/006/024/025
A001/A101

1.1210
11.8200

AUTHOR: Khristoforov, B.D. (Moscow)

TITLE: The parameters of the shock wave front in air after exploding charges of "ten" and lead azide of different density

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1961, 175 - 182

TEXT: The purpose of the present study was determination of the properties of explosive substances on the explosion effect. The experiments were carried out with filled and pressed charges of "ten" with densities 1.6 and 0.4 g/cm^3 and lead azide with densities 1.6 and 0.85 g/cm^3. Experimental data are presented on the parameters of the shock wave front and the results of calculations of energy lost by the shock wave by dissipation. The author introduces the concept of reduced distance from the center of a charge R^0 and defines it as the ratio $R/C^{1/3}$ where R is the distance in m and C is the weight of the charge in kg. As a result of his experiments he arrives at the following conclusions: 1) in the range $0.053 \leq R^0 \leq 0.8$ from the center of the exploding charge, the usual energy similarity does not hold; the lower the detonation speed, the greater

Card 1/2

S/207/62/000/005/008/012
B125/B102

AUTHORS: Khristoforov, B. D., Shirokova, E. A. (Moscow)

TITLE: Shock-wave parameter in underwater detonation of a cord charge

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1962, 147-149

TEXT: The shock-wave parameters for underwater detonation of a very long cylindrical charge were measured by the piezoelectric method using tourmaline primary elements (at distances R = 5; 10; 13; 20; 25 cm from the charge) and by schlieren photography (at R < 5 cm). This charge was ignited at one end in the range $1 \leqslant R/R_0 < 160$. R_0 is the radius of the charge. In the piezoelectric measurements the charge consisted of a detonating cord (PETN and hexogene, weights 10 and 15 g/m) and of a PETN and hexogene filling (density 1 g/cm^3) in a paper wrap at R < 5 cm. In all cases the charge was more than twice as long as the distance from the point of measurement. Hence the effect of the ends of the charge on the shock wave could be neglected. The velocity of detonation was 7 km/sec.

Card 1/3

Evaluation of the experimental data has been described by B. D. Khristoforov (PMTF, 1960, No. 2; 1961, No. 4). The results obtained in the evaluation of the schlieren photographs are given in Table 1. V is the component of the actual rate N of propagation of the front normal to the charge axis. $N = V[1 + (V/D)^2]^{-1/2}$. With the passage of time in the interval $0 \leqslant t \leqslant \theta$ the pressure decreases as $p(t) = P\exp(-t/\theta)$, and for $t > \theta$ according to a power law. The spatial pressure distribution is described by the empirical formulas

$P = (9.75/(R^o)^{1.08}$ at $0.0005 \leqslant R^o \leqslant 0.0007$ and $P = 65.5/(R^o)^{0.71}$ at $0.007 \leqslant R^o \leqslant 0.1$. The empirical formula $\theta^o = 14.6 \cdot 10^{-6}(R^o)^{0.43}$ holds for the time constant θ of the shock wave;

$R^o = (R/\sqrt[3]{q})m^{3/2}/kcal^{1/2}$. For $\varepsilon = E/q = \varphi(R^o)$ the empirical formula $\varepsilon = 0.0157/(R^o)^{1.02}$ is valid. $E = \int(1/\rho a)\int_0^{5.50} p^2(t)dt$ is the energy flux density of the shock wave through the unit area of the wave front. There are 3 figures and 1 table.

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S/207/62/000/005/008/012
B125/B102

Shock-wave parameter in ...

SUBMITTED: April 28, 1962

Table. Legend. (1) $m^{3/2}/kcal^{1/2}$; (2) km/sec; (3) $sec \cdot m^{1/2}/kcal^{1/2}$; (4) km/sec; (5) atm.

(1) R^*, $м^{3/2}/ккал^{1/2}$	(2) V^*, км/сек	(3) $l^* 10^4$, $сек\ м^{1/2}/ккал^{1/2}$	(4) N, км/сек	(5) P, атм	(1) R^*, $м^{3/2}/ккал^{1/2}$	(2) V, км/сек	(3) $l^* 10^4$, $сек\ м^{1/2}/ккал^{1/2}$	(4) N, км/сек	(5) P, атм
0.000615	3.77	—	3.11	26000	0.0033	2.13	1.09	1.99	4900
0.00075	3.50	—	2.98	22700	0.0036	2.09	1.23	1.96	4400
0.00091	3.28	0.1	2.82	19000	0.0041	2.02	—	1.9	3800
0.00105	3.07	—	2.68	16200	0.0043	2.00	1.57	1.88	3600
0.00125	2.83	0.218	2.52	13100	0.0048	1.94	1.82	1.83	3100
0.00147	2.78	0.278	2.48	12400	0.00544	1.91	2.2	1.81	2900
0.00163	2.52	0.36	2.29	9000	0.00695	1.82	2.97	1.73	2100
0.00203	2.45	0.495	2.24	8200	0.00785	1.81	3.43	1.72	2000
0.00252	2.24	0.695	2.08	5800	0.00865	1.78	3.96	1.7	1900
0.0028	2.21	0.855	2.05	5500	0.0098	—	4.74	—	—
					0.0123	—	—	—	—

Card 3/3

KHRISTOFOROV, B.D. (Moskva)

Underwater explosion in an air-filled cavity. PMTF no.6:128-132 N-D '62. (MIRA 16:6)

(Underwater explosions)

L 17039-63 EPR/EPA(b)/EWT(l)/EWG(k)/BDS 8/207/63/000/002/017/025
AFFTC/ASD/ESD-3/AFWL Ps-4/Pd-4/Pz-4 WW/JHB/TF

AUTHOR: Khristoforov, B. D. (Moscow)

TITLE: The similarity of shock waves during explosions of spherical charges in water and in the air

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1963, 142-146

TEXT: The analysis of experimental data obtained during explosions of spherical charges in water and the air published earlier by the author (Ref. 1: PMTF, 1961, No. 4; Ref. 2: PMTF, 1961, No. 6; Ref. 3: PMTF, 1962, No. 6) show that in contradistinction from the case of an air explosion, all parameters of the shock wave in water depend on the density of the explosive substances. It turns out that the criteria of the energy similarity given by M. A. Sadovskiy (Ref. 4: Mekhanicheskoye deystviye vozdushnykh udarnykh voln [Mechanical action of air shock waves], AS USSR, Sb. Fizika vzryva [Physics of the explosion], 1952, No. 1) are not fulfilled. In the present paper the author presents the results of the determination of several empirical laws governing the similarities during

Card 1/2

L 17039-63 S/207/63/000/002/017/025

The similarity of shock waves...

explosions in water and in the air (describing the behavior of the maximum pressures of the shock waves, the reduced specific impulse, and the reduced energy of the shock waves as function of various parameters). There are 7 figures.

SUBMITTED: October 29, 1962

Card 2/2

KHRISTOFAROV, B. S.

Pa-24,T64

USSR/Metals Jun 1947
Molybdenum
Tungsten

"Assaying Molybdenum and Tungsten," B. S. Khristofarov, 15 pp

"Vestnik Leningradskogo Universiteta" No 6

Discussion of assaying these two elements by various processes: 1) by the Rose method, 2) by acid analysis, 3) by re-establishing tungsten acid by the agent of Milvan, 4) by sublimation (Pechard), 5) by ether extraction from hydrochloric solution, 6) xanthate method, 7) Merrill method, 8) colorimetric methods of determination of tungsten and molybdenum by their mutual presence. 24Pa64

KHRISTOFOROV, B. S.; GROSMAN, L. I.;
KALASHNIKOVA, S. N.

Powellite

Preparation of synthetic powellite. Zap. Vses. min. ob., 81, No. 3, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified

KHRISTOFOROV, B. S.

Chemistry of molybdenite. B. S. Khristoforov, L. N. Cvoulev, and Z. M. Arkhipova. *Zapiski Vsesoyuz. Mineralog. Obshchestva* (Mém. soc. russe minéral.) 83, 58-60 (1954).—For the analytical control of oxidic Mo ore beneficiation, the problem of chem. reactions of MoS_2 with dil. solns. of Na_2CO_3 and HCl is important. The concn. of the Na_2CO_3 solns. are varied between 1.5 and 3.0*N* at room temp. and 90°, maintained over 0.5 h hrs. At low temp. the soly. of MoS_2 was found to be 0.10 wt. %, at 90° about 0.40 to 0.45%, in 8*N* HCl, at both temps., 0.37–0.44% MoS_2 as dissolved. A rational (differential phase separation) analysis of oxidic Mo ores is therefore practically not disturbed by the presence of MoS_2. It is presumed that in the soly. expts. with molybdenite an undetected trace of oxidic Mo compds. may be responsible for the rather const. amt. of 0.4% "dissolved." W. Bitel

(2)

KHRITOFOROV, B.S.

Mechanism of the formation of ferritungstite. Zap.Vses.min.ob-va 84 no.1:90-95 '55. (MLRA 8:5)
(Ferritungstite)

137-58-4-6848

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 76 (USSR)

AUTHORS: Khristoforov, B.S., Getskin, L.S.

TITLE: On Eliminating Fluorine From Zinc Industry Solutions (Ob ochistke rastvorov tsinkovogo proizvodstva ot ftora)

PERIODICAL: Sb. tr. Vses. n.-i. in-ta tsvetn. met., 1956, Nr 1, pp 112-118

ABSTRACT: The possibility of eliminating F_2 from Zn solutions by means of various Ca salts was verified. Ca compounds eliminate F_2 from industrial solutions containing 120 g Zn per liter and Mn up to 20 g/ℓ, until the F_2 content in the solution is 120-130 mg/ℓ, while with Mn contents of up to 5 g/ℓ, the F_2 content in the solution can be reduced to appx. 70 mg/ℓ. After sulfating F_2-bearing solutions by Pb dusts at 300°C, the F_2 content diminishes to 0.003-0.006%, and in solutions after leaching of the sulfated product, the F_2 content is 3-7 mg/ℓ.

G.S.

1. Zinc--Solutions 2. Fluorine--Reduction--Methods

Card 1/1

137-58-6-11934

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 107 (USSR)

AUTHOR: Khristoforov, B.S.

TITLE: Certain Causes for Differences in the Solubility of Tungstenates and Molybdates (O nekotorykh prichinakh razlichnoy rastvorimosti vol'framatov i molibdatov)

PERIODICAL: Sb. tr. Vses. n.-i. in-ta tsvetn. met., 1956, Nr 1, pp 172-174

ABSTRACT: The results of comparison of data obtained by a study of the solubility of W and Mo minerals in various caustic and acid solvents are adduced.

O.B.

1. Molybdenum--Solubility 2. Tungsten--Solubility 3. Acids--Solvent action

Card 1/1

137-58-4-8680

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 337 (USSR)

AUTHOR: Khristoforov, B.S.

TITLE: A Survey of the Work of the VNIItsvetmet in the Field of Rational Methods of Analysis (Obzor rabot VNIItsvetmeta v oblasti ratsional'nogo analiza)

PERIODICAL: Sb. tr. Vses. n.-i. in-ta tsvetn. met., 1956, Nr 1, pp 207-224

ABSTRACT: Rational analysis (RA) of ores and milling products for Pb compounds envisages the successive dissolution of the following Pb-bearing minerals: anglesite in NaCl solution, cerussite in ammonium acetate solution, crocoite in NaOH solution, pyromorphite and vanadinite in acid NaCl solution, and galena in a solution containing $FeCl_3$ and NaCl. It is established that plumbojarosite (the basic sulfate of Pb and Fe) is not noticeably soluble in the abovementioned solvents. 7% Pb will go into an acid NaCl solution in the total absence of pyromorphite and vanadinite. Cerussite does not dissolve completely in a neutral 15% ammonium acetate solution. A method of analysis consisting of 2 operations has been developed for the RA of Pb smelting slags. Oxidized Pb compounds are dissolved with heating in a 15% NaOH solution, with addition of sugar. The insoluble residue is treated with 10% $AgNO_3$ solution. Pb, in the form of PbS, is determined

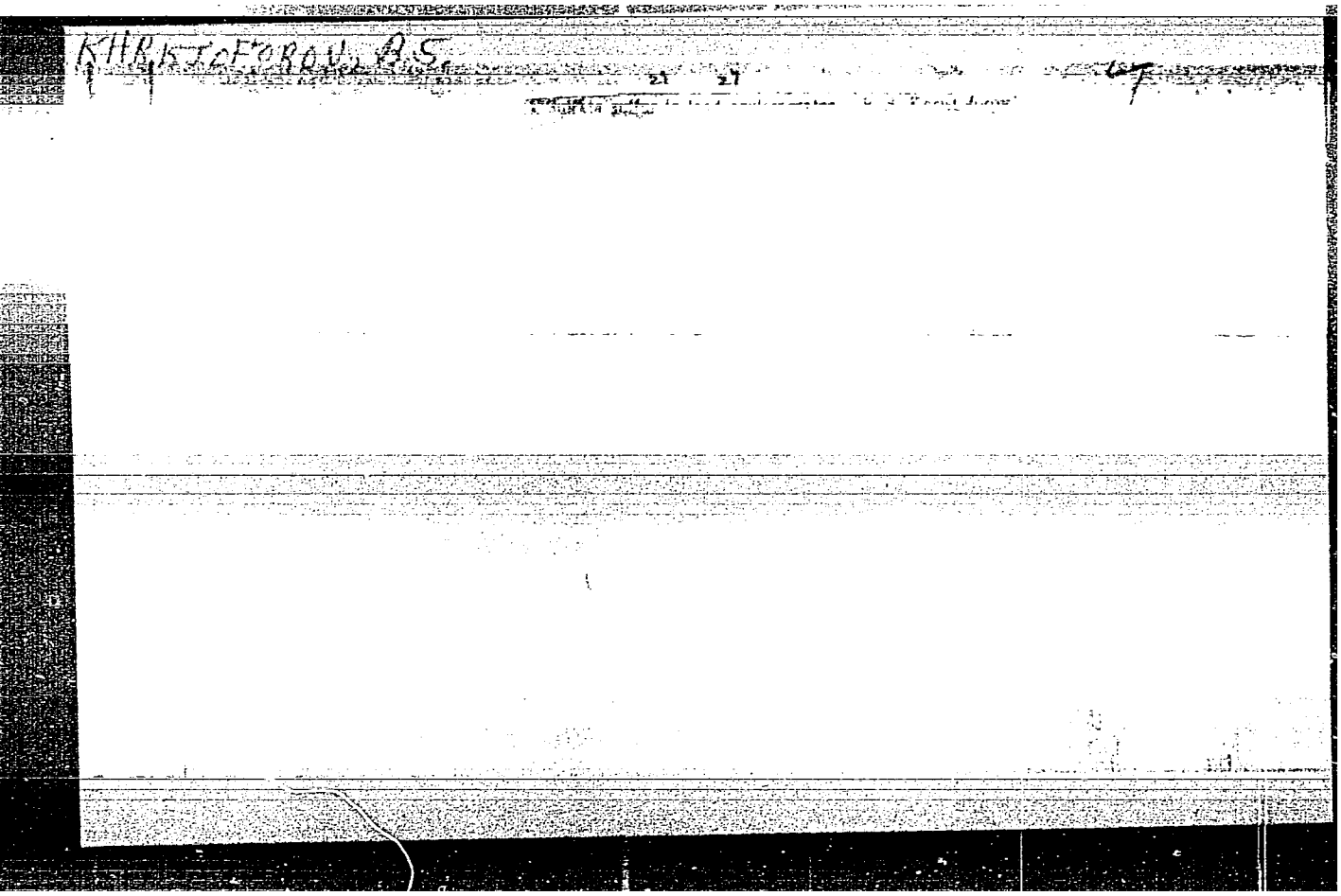
Card 1/2

A Survey of the Work of the VNIItsvetmet (cont.)

in the residue. It is established that up to 3 percent Pb in the slags of Pb refining is in the form of acid compounds, 15-45 percent in the form of metallic Pb, and 60-95 percent in the form of PbS. RA of the products of the Zn industry resolves itself to successive treatment of the specimen with water (extraction of $ZnSO_4$), an NH_4Cl ammonia solution (extraction of ZnO and 8 percent Zn silicate), 50-percent acetic-acid solution (extraction of Zn silicate), and 5-percent HCl with hypophosphite (extraction of Zn ferrite). RA of slags for Fe compounds, performed in the ordinary way, yields underreadings for Fe_2O_3. This is explained by the fact that on dissolution of metallic Fe in $CuSO_4$ solution, H_2S is separated out, and this reduces the higher Fe oxides. It is therefore proposed to dissolve metallic Fe by $HgCl_2$ solution. RA of Cu smelting slags for Pb, Zn, and Cu compounds has established that the Pb is present therein in the form of very stable silicates. Therefore, it may be extracted only by decomposing the slags in concentrated HNO_3 or HCl on addition of fluorine salts. The procedure described above is suited to the determination of Zn. RA shows that 50 percent of the Cu in slags is in the form of metallic Cu.

1. Lead ores--Analysis 2. Lead ores--Processing 3. Lead ores-- V.N.
Solubility

Card 2/2



AUTHOR: Khristoforov, B.S. and Stroitelev, I.A. 282

TITLE: Sulphides in lead-production sinters. (O sulfidakh v aglomeratakh svintsovogo proizvodstva.)

PERIODICAL: "Tsvetnye Metally" (Non-ferrous metals), 1957, No. 1, pp. 24 - 29, (U.S.S.R.)

ABSTRACT: This investigation represents an attempt to find a satisfactory method for the chemical-mineralogical study of sulphide sinters. No attempt is made to connect the data obtained with the production conditions of the corresponding sinters. Most of the work was carried out with shift or daily samples. Because of the relative constancy of chemical composition, only a few representative analytical results are shown. In addition to microscopic investigations special chemical techniques were developed.

Lead-production sinters were found to contain the following sulphides, in decreasing concentration: galenite, copper sulphides (chalcosine with covellite, bornite, chalcopyrite), zinc sulphides (sphalerite and wurtzite) and pyrrhotine. Less than 1% of zinc was present in the sinter studied. The higher concentration of zinc sulphide in smelting products is, it is suggested, the result of its formation in phase transformations occurring during the smelting of a high-zinc and high-sulphur charge.

There are 6 references, all Russian, and 7 figures.

KHRISTOFOROV, B.S.

AUTHORS: Khristoforov, B.S. and Stroitelev, I.A. 136-3-3/25

TITLE: Zinc Ferrite in Lead-Production Sinter. (Ferrit tsinka v aglomerate svintsovogo proizvodstva).

PERIODICAL: Tsvetnyye Metally, 1957, No.3, pp.9-12 (USSR)

ABSTRACT: Little data, some of it conflicting, is available on zinc ferrites. It is known, however, to be one of the most stable of the ferrites. Observed differences in the solubility of different zinc ferrite preparations in acids suggested that different compositions were involved but this could not be checked because of the difficulty of obtaining zinc ferrite in a comparatively pure state. This difficulty was overcome by the present authors by using a lead-making sinter which consisted mainly of a vitreous silicate mass and zinc-ferrite crystals. The structure of the sinter is discussed with the aid of photomicrographs and results of analyses of the solution and residue obtained by treatment of the sinter with 1% HCl are tabulated, as is the deduced composition of the residue (53.52% zinc ferrite). The lattice parameters and lattice structure of the ferrite and related compounds are discussed on the basis of published data. It is concluded that the ferrite isolated is an isomorphous mixture of zinc

1/2

Zinc Ferrite in Lead-Production Sinter. 136-3-3/25

ferrite and magnetite, accounting for its lower solubility compared with that of synthesized ferrite. This is taken to indicate that non-validity of methods such as that of Solntsev, Dubovitskaya and Yevseyeva (Ref.4) for the analysis of ferrite containing products.
There are 3 figures, 2 tables and 8 Slavic references.

2/2

ASSOCIATION: VNIITsVETMET.

AVAILABLE: Library of Congress

KHRISTOFOROV, B.S.; STROITELEV, I.A.

Sulfides in lead production sinters. TSvet.met. 30 no.1:24-29 Ja '57. (MLRA 10:3)
(Lead--Metallurgy) (Lead sulfide)

KHRISTOFOROV, B.S.

4E 4j
4E 2c

Formation of cerussite. B. S. Khristoforov. *Zapiski Vsesoyuz. Mineral. Obshchestva* 86, 508-10(1957).—In the oxidation zone of Pb ores, or of polymetallic deposits, anglesite is often replaced by cerussite. Commonly it is assumed that CO_2- and bicarbonate-contg. mine waters circulating in oxidation minerals caused this reaction. Free H_2SO_4 formed would be immediately neutralized by Ca bicarbonate. The author discusses the solubilities (solv. products) for the sulfates and carbonates of Pb, Zn, Cd, Fe, Mg, Ca, Sr, and Ba. $PbCO_3$ is the least sol. of the carbonates, and the replacement of anglesite by cerussite can be explained by the reaction $CaCO_3 + PbSO_4 \rightarrow PbCO_3 + CaSO_4$. This reaction was experimentally studied in mixts. of $PbSO_4$ and $CaCO_3$, with an analytical control of the diminishing amts. of $PbSO_4$ by the NaCl extn. method. The reaction goes on rather rapidly: in one hr. 55% of the available $PbSO_4$ is changed to $PbCO_3$ if a large excess of $CaCO_3$ was used. The natural occurrence of cerussite does not show too often its assocn. with gypsum which is easily dissolved by circulating mine waters. Sometimes the Fe_2O_3 hydrate minerals contain adsorbed $CaSO_4$ in the oxidation zone. In the place of $CaCO_3$, also the carbonates of Mg, Fe, Sr, Ba, Zn may react with $PbSO_4$. $FeSO_4$ formed in this way can easily be oxidized *in situ* and pptd. as ochrous minerals, or as jarosite.

W. Eitel

1/1

SOV/136-58-8-6/27

AUTHOR: Khristoforov, B.S.

TITLE: The Possibility of Lead Ferrites being Present in Slags From the Shaft Smelting of Lead (Vozmozhnost' prisutstviya ferritov svintsa v shlakakh svintsovoy shakhtnoy plavki).

PERIODICAL: Tsvetnyye Metally, 1958, 31 Nr.8, pp.24-28 (USSR)

ABSTRACT: The author criticises the readiness of some workers (Refs.1,3) to accept the presence of lead ferrites in slag, and refers to his own work (Ref.10). His results were obtained by treating slag samples with mercuric chloride solution to determine the total iron in the form of metal, sulphide and ferrous, the ferric iron then being found by difference from the total iron. In one sample the metallic iron was first removed by copper sulphate. The results (Table 1) suggest that a small part of ferric iron may be in the form of ferrite, but the author considers that the ferrites are much more likely to be those of zinc or calcium than of lead. The author repeated the experiments of L.I. Paramonov (Ref.5) on the influence of roasting temperature of a mixture of PbO and Fe_2O_3 on the amount of free

Card 1/2

The Possibility of Lead Ferrites being Present in Slags From the Shaft Smelting of Lead.

lead oxide, and found the optimal temperature for ferrite formation to be about 800°C, these results (Table 3) being somewhat higher than those of Paramonov (Table 2). O.P. Azrel'yan et al (Ref.12) proposed a 4-N sodium hydroxide solution containing sugar for the solution of metallic lead; the author found (Table 4) that this solution extracts lead completely from the oxide and silicates and, to a considerable extent, from ferrites, and used it to treat numerous shaft-smelting slags. The results indicated that these slags did not contain the oxidized forms of lead and hence its ferrites, and this is also his general conclusion from his own work and a critical survey of published data. M.V. Brazhnikova participated in the work. There are 2 figures, 4 tables and 12 Soviet references.

1. Slags--Analysis 2. Lead ferrite--Determination 3. Lead ores --Processing

5(2) SOV/54-59-1-19/25

AUTHORS: Khristoforov, B. S., Arkhipova, Z. M.

TITLE: On the Determination of Tungsten and Iron in Tungsten Products (Ob opredelenii vol'frama i zheleza v vol'framovykh produktakh)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 1, pp 139-140 (USSR)

ABSTRACT: In the present paper special attention was devoted to the possibility of determining iron and tungsten simultaneously from a weighed portion. The investigation was begun by mixing solutions of sodium tungstate and iron chloride in various concentration ratios. The solutions obtained were treated with hydrochloric acid and boiled in order to obtain the precipitation of the major part of tungstic acid. By the addition of cinchonine solution, tungsten is precipitated entirely in an almost pure tungsten precipitate. The content of the iron still being in solution is then determined in the usual way by bichromate titration. The results are shown in table 1 from which may be seen that the determination of tungsten becomes less accurate in the presence of very large iron quantities. Tungsten and iron were also determined in a number of enriched products (Table 2).

Card 1/2

SOV/54-59-1-19/25

On the Determination of Tungsten and Iron in Tungsten Products

This method is stated to shorten the duration of analysis and to diminish the consumption of reagents. There are 2 tables and 1 Soviet reference.

SUBMITTED: May 15, 1958

Card 2/2

KHRISTOFOROV, B.S.; ARKHIPOVA, Z.M.

Determination of tungsten and iron in tungsten products.
Vest.LGU 14/ no.4:139-140 '59. (MIRA 12:5)
(Tungsten--Analysis)
(Iron--Analysis)

5(0), 28(0)

AUTHOR: Khristoforov, B. S., Chairman of the Institution Mentioned in the Association

SOV/32-25-6-52/53

TITLE: Conference of Readers of the Periodical "Zavodskaya laboratoriya" (Konferentsiya chitateley zhurnala "Zavodskaya laboratoriya")

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, p 766 (USSR)

ABSTRACT: The Vsesoyuznoye khimicheskoye obshchestvo im. D. I. Mendeleyeva (All-Union Chemical Association imeni D. I. Mendeleyev) and the Technical Library of the Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov (VNIITsVETMET) (All-Union Scientific Research Institute of Non-ferrous Metals (VNIITsVETMET)) organized a readers' conference of the workers of the industrial- and research organizations of the city of Ust'-Kamenogorsk. The conference was devoted to an evaluation of the periodical "Zavodskaya laboratoriya" and held at the end of January 1959. The conference was attended by representatives of the following organizations: Vostochno-Kazakhstanskoye oblastnoye otdeleniye Vsesoyuznogo khimicheskogo obshchestva im. D. I. Mendeleyeva (Department of the District of East Kazakhstan of the All-Union Chemical Association imeni

D. I. Mendeleyev), the VNIITsVETMET, the Ust'-Kamenogorskiy svintsovo-tsinkovyy kombinat (Ust'-Kamenogorsk Lead-Zinc Kombinat) and the Altayskiy gorno-metallurgicheskiy nauchno-issledovatel'skiy institut Akademii nauk Kazakhskoy SSR (Altay Scientific Research Institute of Mining and Metallurgy of the Academy of Sciences of Kazakh SSR). Among other things the following resolutions were taken: the periodical is to be extended to 250-260 printed sheets per year. It is to be published in three separated series: - "Methods of Chemical Analysis", "Methods of Physical Investigation" and "Mechanical Test Methods". The manuscripts are to be criticized within a shorter period of time and certain series of articles are to be published in a larger number. The participants of the conference were of the opinion that it is necessary to publish the judgement of several problems dealing with this subject in the periodicals "Zavodskaya laboratoriya" and "Promyshlenno-ekonomicheskaya gazeta".

ASSOCIATION: Pravleniye Vostochno-Kazakhstanskogo oblastnogo otdeleniya Vsesoyuznogo khimicheskogo obshchestva im. D. I. Mendeleyeva (Administration of the Department of the East-Kazakhstan District

Conference of Readers of the Periodical "Zavodskaya laboratoriya" SOV/32-25-6-52/53

of the All-Union Chemical Association imeni D. I. Mendeleyev)

Card 3/3

VORONTSOVA, M.K.; VORONTSOV, N.I.; KHRISTOFOROV, B.S.

Ores of the Nikolayevka deposit in the Rudnyy Altai and the oxygen compounds of lead, copper and zinc contained in them. Trudy Alt.GMNII AN Kazakh.SSR 11:141-146 '61. (MIRA 14:8)
(Nikolayevka (Altai Territory)—Ore deposits)
(Oxygen compounds)

KHRISTOFOROV, V.S.

Selective solvents. Report no.1. Trudy Alt.GMNII AN Kazakh.SSR. 11:147-152 '61. (MIRA 14:8)
(Tungsten ores—Analysis) (Solvents)

KHRISTOFOROV, B.S.; SHABANOV, V.N.

Selective solvents. Report No.2 Trudy Alt.GMNII AN Kazakh.SSR 11:153-159 '61. (MIRA 14:8)
(Mineral--Analysis) (Solvents)

KHRISTOFOROV, B.S.

Problems in chemical phase analysis at the conference on the methods of analysis of selenium-containing products. Zhur. anal.khim. 16 no.3:382-383 My-Je '61. (MIRA 14:6)
(Selenium compounds—Congresses)

KHRISTOFOROV, B.S.

Mathematical processing of ratio analysis results. Trudy Alt. GMNII AN Kazakh.SSR 12:130-143 '62. (MIRA 15:8)
(Mineralogy determinative)

KHRISTOFOROV, B.S.

Some possibilities of using ratio analysis in geological studies. Trudy Alt.GMNII AN Kazakh.SSR 12:144-151 '62. (MIRA 15:8)
(Mineralogy, Determinative)

KHRISTOFOROV, Boris Sergeyevich; GLOTKO, Yevgeniy Danilovich; BUSEV, A.I., prof., otv. red.; OMBYSH-KUZNETSOV, S.O., red.; OVCHINNIKOVA, T.K., tekhn. red.

[Analysis of the products of the lead industry] Veshchestvennyi analiz produktov svintsovogo proizvodstva. Novosibirsk, Izd-vo sibirskogo otd-niia AN SSSR, 1963. 94 p. (MIRA 16:9)

(Lead--Analysis)
(Nonferrous metals--Analysis)

KHRISTOFOROV, Boris Sergeyevich; BUSEV, A.I., prof., otv. red.; TARASOVA, N.V., red.; LOKSHINA, O.A., tekhn. red.

[Determination of the mineral (phase) composition of tungsten ores] Veshchestvennyi (ratsional'nyi) analiz vol'framovykh rud. Novosibirsk, Izd-vo Sibirskogo otdniia AN SSSR, 1963. 60 p. (MIRA 17:4)

KHRISTOFOROV, B.S.; KONDRAT'YEV, V.M., kand. khim. nauk, retsenzent; MISHCHENKO, M.A., retsenzent; TIMERBULATOVA, M.I., retsenzent; NOVIK, I.V., retsenzent; PETRENKO, A.G., retsenzent; MAR'YEVA, N.N., retsenzent; LEVIN, I.S., retsenzent; BUSEV, A.I., prof., otv. red.; KRAVCHENKO, L.S., red.

[Selective solvents in mineral phase analysis] Izbiratel'nye rastvoriteli v veshchestvennom analize. Novosibirsk, Red.-izd. otdel Sibirskogo otd-niia AN SSSR, 1964. 95 p. (MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet (for Busev).

TIMERBULATOVA, M.I.; KHRISTOFOROV, B.S.

Use of complex compounds in mineral analysis. Report No.1: Determination of copper of "active" sulfides. Zhur. anal. khim. 19 no.8:989-992 '64. (MIRA 17:11)

1. Gornometallurgicheskiy institut Sibirskogo otdeleniya AN SSSR, Novosibirsk.

CHEPIK, Mariya Nikiforovna; KHRISTOFOROV, Boris Sergeyevich

[Laboratory analyst of lead-zinc plants] Laborant-analitik svintsovo-tsinkovykh zavodov. Moskva, Metallurgiia, 1965. 112 p. (MIRA 18:6)

KHRISTOFOROV, D.G., inzh.; STUDENETSKAYA, V.A., tekhn. red.

[Program for the topic "Design of appliances" for technical schools in the subject "Tool Manufacture"] Programma po predmetu "Proektirovanie prisposobleniĭ" dlia tekhnikumov po spetsial'nosti "Instrumental'noe proizvodstvo." Moskva, TSentr. biuro tekhn. informatsii, 1956. 10 p. (MIRA 11:8)

1. Russia (1923- U.S.S.R.) Ministerstvo stankostroitel'noy i instrumental'noy promyshlennosti. Upravleniye uchebnymi zavedeniyami. (Design, Industrial)

KOTEL'NIKOV, V.K.; KHRISTOFOROV, D.G.; FREZEROV, G.V., prof., retsenzent; KRUGLYAK, L.A., inzh., red.; SEMENCHENKO, V.A., red.izd-va; MAKAROVA, L.A., tekhn. red.

[Attachments for the manufacture of metal-cutting tools] Prisposobleniia dlia proizvodstva rezhushchikh instrumentov. Moskva, Mashgiz, 1963. 189 p. (MIRA 17:3)

KURPE, V.I., master nagrevatel'nykh kolodtsev; KHRISTOFOROV, G.N., starshiy svarshchik

Recuperative soaking pits with bilateral top heating. Metallurg 6 no.2:28-29 F '61. (MIRA 14:1)

1. Zavod Azovstal'. (Furnaces, Heating)

POGORZHEL'SKIY, V.I., inzh.; KURPE, V.I., inzh.; KHRISTOFOROV, G.N., inzh.

Heating pit for cold ingots. Stal' 23 no.8:758-759 Ag '63.
(MIRA 16:9)

1. Metallurgicheskiy zavod "Azovstal'".
(Furnaces, Heating)

KHRISTOFOROV, I.

"The Experimental Field In The Collective Farm In The Village of Novo Selo, Ruse County p. 50", (KOOPERATIVNO ZEMEDELIE) Vol. 8, No. ½, 1953, Sofiya, Bulgaria.

SO: Monthly List of East European Accessions L.C. Vol. 2, No. 11, Nov. 1953, Uncl.

KHRISTOFOROV, I.D., prof.; MOREV, M.V., veter. vrach.; KRUTOV, N.A., veter. vrach

Some data on the effect of temporary and prolonged supplementary feeding of chickens with potassium iodide in order to increase their egg production. Trudy SZVI 11:147-153 '62.
(MIRA 16:7)
(Potassium iodide--Physiological effect)
(Saratov Province--Eggs--Production)

KHRISTOFOROV, I.D., prof.; BYKOVA, M., red.; LUKASHEVICH, V., tekhn. red.

[Recommendations for the use of ultraviolet irradiation in animal husbandry] Rekomendatsii po primeneniiu ul'trafioletovogo obluchenila v zhivotnovodstve. Saratov, Saratovskoe knizhnoe izd-vo, 1962. 14 p. (MIRA 16:6)

1. Saratov. Zootekhnicheako-veterinarnyy institut.
(Ultraviolet rays--Physiological effect)
(Animal industry)

KHRISTOFOROV, L.

KUIUMDZHIEV, I., KHRISTOFOROV, L.

Method of hemagglutination by colored antigen in the rapid diagnosis of brucellosis. Izv. mikrob. Inst., Sofia., Vol. 1, 1950 p. 119-28

1. (Dr. Il. Kuyumdzhiyev--Head Director of the Microbiological Institute of the Bulgarian Academy of Sciences; Dr. L.Khristoforov--Specialist at the Central Veterinary Bacteriological Institute).

CLML 19, 5, Nov., 1950

GENEV, Khr., d-r; KHRISTOFOROV, L., d-r

Diagnostic value of rapid agglutination test in swine erysipelas.. Izv. mikrob. inst., Sofia Vol.4:139-147 1953.

1. Starshii nauchni sutrudnitsi pri Tsentr. veter. bakter. institut.

(ERYSIPELOID, diagnosis,
serol., rapid agglutination test)
(HEMAGGLUTINATION,
diag. of erysipeloid)

Epidemiology

BULGARIA

KHRISTOFOROV, Dr. L.; VIZPB [Abbreviation not identified]

"Tularemia and Its Dangers"

Sofia, Veterinarna Sbirka, Vol 63, No 9, 1966, pp 9-12

Abstract: The epizootological aspects of tularemia are discussed in some detail with emphasis on the roles played by rodents and pasture ticks in the transmission of this disease. Reference is made to cases of human tularemia in the Plovdiv and Pazardzhik districts in Bulgaria and to the isolation of F. tularensis from a musk rat in the Tolbukhin District in Bulgaria. It is pointed out that wild animals can be subdivided into three groups from the standpoint of their sensitivity to tularemia infection: those that are sensitive, little sensitive, and insensitive. Among farm animals, sheep exhibit the greatest susceptibility to tularemia.

1/1

KHRISTOFOROV, L.; SIVOVSKI, Iv.

Hemagglutination reaction in case of tuberculosis in cattle. Pt.2. Izv Vet inst zaraz parazit 8:107-116 '64

KHRISTOFOROV, L., d-r; VACHEV, Bl., d-r (TSVBI)

Isolation of Brucella abortus bovis Bang in a Case of human brucellosis. Izv.mikrob.inst., Sofia 5:239-245 1954.
(BRUCELLOSIS, bacteriology,
Brucellosis abortus bovis in human infect.)

KHRISTOFOROV, L.; SIVOVSKI, Iv.

Complement fixation reaction in bovine tuberculosis. Pt. 3.
Izv Vet inst zaraz parazit 7 103-109 '63.

KHRISTOFOROV, I.; SIVIVSKI, Iv.

Hemagglutination reaction in poultry tuberculosis. Izv Vet inst zaraz parazit 9:117-126 '61

GAITANDZHIEV, Georgi; KOLEV, K[illegible]o; OGNIANOV, Dimitur, KHRISTOFOROV, Liubomir.

Quality of the anthrax vaccine produced in Bulgaria, and results of its application after the Max Sterne method. Selskostop nauka 1 no.10:1131-1140 '62.

27639
S/194/61/000/002/028/039
D216/D302

16.8000(1013, 1068, 3001)

AUTHORS: Kazakevich, V.V, Kornilov, R.V. and Khristoforov, N.G.

TITLE: Electronic extremum controller

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 2, 1961, 39, abstract 2 V316 (V sb. Teoriya i primeneniye diskretn. avtomat. sistem, M., AN SSSR, 1960, 558-569)

TEXT: In an extremum controller operating with storage of the extremum, the fundamental disturbance is the fast monotonically disappearing extremum characteristic. For the stabilization of the position of the controlling device it becomes then advantageous to use a commutator which periodically reverses the speed of the machine. The presence of inertia or delay in the load influences the steady-state of a system with such a controller. If in a load without inertia in its steady-state positive and negative increments

Card 1/2

KHRISTOFOROV, S.I.,Cand Med Sci -- (diss) "Medical-jurisprudential study of damages to the thorax for establishment of a trauma mechanism." Gor'kiy, 1958, 10 pp (Gor'kiy State Med Inst im S.M. Kirov) 200 copies (KL, 27-58, 118)

Forensic medicine

injuries

- 226 -

KHRISTOFOROV, V., kapitan

Exercise for crews of radio relay stations. Voen. vest. 41 no.7: 103-104 Jl '61. (MIRA 15:1)
(Radio, Military)

KHRISTOFOROV, V.

Innovators' practice is introduced in an organized manner. Sots. trud 7 no.10:129-131 O '62. (MIRA 15:10)

1. Nachal'nik otdela truda i zarabotnoy platy Pyshminskogo rudoupravleniya tsvetnoy metallurgii Sverdlovskogo soveta narodnogo khozyaystva.

(Pyshma—Ore dressing—Technological innovations)

L 01302-67 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AP6002205 (N) SORCE CODE: UR/0153/65/008/005/0753/0757

AUTHOR: Belov, V. T.; Bogoyavlenskiy, A. F.; Kozyrev, Ye. M.; Khristoforov, V. A.

ORG: Kazan' Aviation Institute, Department of Chemistry (Kazanskiy aviatsionnyy institut, Kafedra khimii)

TITLE: Investigation of the sorption properties of anodic oxide film on aluminum. VI. Electron microscopic study of anodic oxide films on aluminum after filling

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 8, no. 5, 1965, 753-757

TOPIC TAGS: anodic oxidation, aluminum, electron microscopy

ABSTRACT: Samples of aluminum AD-1, 18 cm^2 in surface, were degreased by acetone and subjected to anodic oxidation for 20 minutes in 20% H_2SO_4 at 20C at a current density of 1 amp/dm^2. After washing in distilled H_2O and drying in a desiccator over H_2SO_4, the oxide film weighed 0.155 g/dm^2, had a thickness of 5-6μ, a porosity of 15-18%, and contained 15-16% by weight of sulfate ions. Filling of oxide films was made in distilled H_2O and in 0.1 M solution of sodium phosphate or chromate at various pH. The electron microscope study was made from lac and, in some cases, titanium replicas. The reaction of the oxide film with H_2O at 95C caused a noticeable swelling and an intense hydration which narrowed the pores and changed the observable relief of the film surface. The

Card 1/2 UDC: 620.197 : 537.533.35

L 01302-67

ACC NR: AP6002205

chemical-sorption reaction of the film substances with anions of the inorganic solution-filler resulted in the formation of dense chemical-sorption layers, decreasing noticeably the swelling affected by H_2O. In addition, the phosphate and chromate solution-fillers, which reacted with film substances with a low dissolving effect (pH 4.5-6.5), somewhat smoothed the frontal surface of the film in the most protruding places. The exposure of film to air at 110C did not change its surface, but exposure of film to 330C brought about the deformation of the film surface. Evidently the decreases in weight, observed in both cases, were caused in the first case by the liberation of adsorption water from pores, whereas in the second case it was caused by the dehydration of oxide and removal of structural water. The data obtained substantiated the theory, advanced previously, on the presence of dissolving, hydration, and sorption of anions during filling of films in aqueous solutions of inorganic salts. It was noticed that, during filling of films in solutions of Na phosphate, hydration was smaller than during filling in bichromate - chromate solutions. The paper was presented at the Fourth All-Union Conference on Electron Microscopy (IV Vsesoyuznoye soveshchaniye po electronnoy mikroskopii) held at Sumy, 12-14 Mar 1963. Orig. art. has: 2 fig. and 1 table.

SUB CODE: 11,20/SUBM DATE: 09Sep63/ ORIG REF: 004/ OTH REF: 002

Card 2/2

KHRISTOFOROV, V.A.

137-58-5-10838

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 278 (USSR)

AUTHOR: Dmitriyev, V.A., Rzhevskaya, Ye.V., Khristoforov, V.A.

TITLE: The Structure of Electrolytically Polished Copper (Struktura elektropolirovannoy medi)

PERIODICAL: Izv. Kazansk. fil. AN SSSR. Ser. khim. n., 1957, Nr 4, pp 115-126

ABSTRACT: A study is made of the surface of Cu in the process of anodic dissolution in an electrolytic polishing bath in accordance with the process procedure and the crystallographic orientation. The experiments were run on annealed polycrystalline specimens of Cu and on single crystals of Cu obtained by crystallization from the melt. X-ray was used to determine the position of the crystallographic planes in the single crystals. Microscopic investigation of surfaces was performed with the optical portion of the PMT-3 instrument, at a magnification of 480 times. Investigation of the surface by the electron microscope was done with an EM-3 model, employing chrome-tinted celluloid replicas. The electrolyte used was H_3PO_4, of 1.535 sp. gr. The first stage process of electrolytic polishing of polycrystalline Cu at a

Card 1/2

The Structure of Electrolytically Polished Copper

current density of 1 amp/dm^2 and 0.12 v effects an etching of the surface to reveal the microstructure. An increase in the current density, voltage, and duration of anodic dissolution is accompanied by a selective dissolution of various portions of the crystallite, confirming the concept of the electrical decrystallization mechanism of dissolution. As dissolution time is further increased, all signs of microstructure disappear, and the surface becomes microscopically smooth. Dissolution of individual planes of single crystals of Cu under a regime corresponding to the first segment of the polarization curve is accompanied by the appearance of etch figures appropriate to the given plane. Higher current densities result in a microscopically smooth, electrolytically polished surface similar to the surface of polycrystalline Cu. The use of electron microscope investigations with magnifications of the order of 2000 makes it possible to distinguish submicroscopic roughnesses on the "smooth" surface of the Cu. This roughness is due to the selective nature of the dissolution of sub-microscopic parts of the metal surface and is not related to crystallographic orientation.

1. Copper--Surfaces 2. Electrolytic polishing--Effectiveness E. K.

KHRISTOFOROV, V.A.

Experience gained in the use of thermomanometric tubes.
Prib. i tekh. eskp. 9 no.2:129-130 Mr-Ap'64. (MIRA 17:5)

1. Khimicheskiy institut Kazanskogo filiala AN SSSR.

KHRISTOFOROV, V. S.

PA 197T40

USSR/Engineering - Hydraulic Engineering, Grounds Feb 51

"Calculating the Stability of Ground Under Structures With Consideration of Compressed Ground Wedge," V. S. Khristoforov, Cand Tech Sci

"Gidrotekh Stroi" No 2, pp 32-36

Suggests method for calg the stability of ground, taking into consideration the compressed wedge in the base of structure, for cases when the greatest ordinate of stress diagram is near the point of overturning. Data of pure theory cannot

197T40

USSR/Engineering - Hydraulic Engineering, Grounds (Contd) Feb 51

be used directly in these cases, and the method is based on exptl data taken from tech publications.

197T40

L 19386-63 EWP(q)/EWT(m)/EWP(B)/BDS AFFTC/ASD JD

ACCESSION NR: AT3001932 S/2912/62/000/000/0326/0332

AUTHORS: Dmitriyev, V.A.; Rzhevskaya, Ye.V.; Khristoforov, V.A. 42B

TITLE: The surface structure of metals and oxides after electrolytic and chemical polishing

SOURCE: Kristallizatsiya i fazovyye perekhody. Minsk, Izd-vo AN BSSR, 1962, 326-332

TOPIC TAGS: crystal, crystallization, crystallography, surface, structure, polishing, electrolytic, electrochemical, chemical, mechanical, electropolishing, anode, anodic, polarization, limiting current, potential, acceptor, activity, exhaustion, submicrostructure, oxide film, cuprous oxide, Cu

ABSTRACT: The paper describes the results of an experimental investigation of the surface structure created by electrolytic and chemical polishing of metals. A new approach to the problem is required, because the surface characteristics and the nonuniformities arising in the process of chemical polishing are basically at variance with the nonuniformities obtained in mechanical polishing. The surface structure of annealed Cu at various stages of anodic polarization in 70% phosphoric acid, performed in potentiostatic conditions, was employed. Specimens dissolved

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ACCESSION NR: AT3001932

within 3 hrs. Ordinary etching and development of the microstructure in the 0.4-0.6-v potential interval. At 0.65-1.85 v, the so-called "plateau," a shining, visually smooth, surface is formed. 500x microscopic investigation, however, indicated far-reaching changes in the structure. Below the "oscillation potential," each grain has a smooth, polished, surface, but with pronounced grain boundaries. In the oscillation-potential interval 0.65-0.90 v a new-type structure with dissolution strata is formed. This structure depends on the orientation of the grains. At 1.2-1.6 v the grain-boundary development ceases, and at 1.65-1.75 v not only the intergrain boundaries but the dissolution strata themselves vanish. It is concluded that, contrary to prevailing opinion (Edwards, J., J. Electrochem. Soc., v. 100, no. 7, 1953, 189; no. 8, 1953, 223), the attainment of the limiting current, founded on the exhaustion of the activity of the acceptor H_3PO_4, is not a sufficient condition for the accomplishment of high-quality polishing, and the shape of the polarization curve is not adequate to characterize the polishing process. The reason for the inception of the manifold structure at various values of the potential, but at a constant limiting current, is evidently attributable to another process. It is postulated that an extremely thin layer of cuprous oxide forms on the surface of the Cu electrode. With increasing polarization potential, the character of the distribution of the cuprous oxide on the various crystallographic elements of the surface and its electrochemical nature changes. This, then, is the reason for the formation of

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ACCESSION NR: AT3001932

variously shaped structures at the limiting current. Only at elevated potential (1.65 to 1.75 v) will the cuprous-oxide film attain an elevated electrochemical uniformity, thereby forming a surface with a fine submicrorelief. In such conditions, the preferential dissolution of separate submicroregions of the surface will be determined fundamentally not by their electrochemical activity, but by the condition of the sufficiency of the acceptor. The experiments (numerous photos are shown) were performed on sheet-Cu specimens, on the surface of which a 0.2-mm thick cuprous-oxide film had been formed. It was found that electropolishing of cuprous oxide can be performed in the following electrolyte (in milliliters): H_3PO_4 (1.5 sp. gr.) 250; glycerol 150; T 40°C; current density 10-20 ma/cm^2. The cuprous oxide could be polished even more effectively by chemical dissolution in an electrolyte consisting of 135 ml H_3PO_4 (1.7 sp. gr.) and 15 ml HNO_3 (1.5 sp. gr.) at T 40-60°C. Orig. art. has 6 figs.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 16Apr63 ENCL: 00

SUB CODE: CH, PH, MA, EL NO REF SOV: 007 OTHER: 004

Card 3/3

KHRISTOFOROV, V.S.; BIBANOV, V.I.; ZHUKOVETS, A.M.; SANEL'NIKOV, V.S.; ZHILIN, N.V.; MARCHENKO, L.L.

Effects of the earthquake of May 4, 1959 in the region of Petropavlovsk. Biul. Sov. po seism. no. 11:45-63 '60 (MIRA 14:3)
(Petropavlovsk region—Earthquakes and building)

KHRISTOFOROV, V.V.

Application of the method of variation of arbitrary constants to the construction of integral equations for a virating rod. Biul. SAGU no.30:131-139 '48. (MLRA 9:5)
(Vibration) (Integral equations)

KHRISTOFOROV, V.V.

Vector potentials of contour deformations and forces. Trudy SAGU 17:139-145 '50. (MLRA 9:5)
(Surfaces, Deformation of) (Vector analysis)

KHRISTOFOROV, V.V.

Construction of integral equations in the plane theory of elasticity by the method of the theory of vectorial potentials. Trudy Inst. mat. i mekh. AN Uz.SSR no.10:134-159 part 2 '53. (MLRA 8:4)
(Integral equations) (Elasticity) (Potential, Theory of)

KHRISTOFOROV, V. V.

3216. Khristoforov, V. V., Integral equations of two-dimensional dynamic problems in the theory of elasticity (in Russian). *Trudi in-ta mat. mekh. Akad. Nauk UzSSR* 13, 93-102, 1954; *Ref. Zh. Mekh.* 1956, Rev. 3875.

Applying Laplace transformations, the dynamic equations of Lamé are brought into a continuous form, while in regard to conformal transformation, the two-dimensional internal problems of the dynamics of an elastic body are examined by the method already suggested by the present abstractor for three-dimensional problems [*Doklady Akad. Nauk SSSR*, 76, no. 4, 1951].

The construction of the integral equations is performed with the help of the theory of plane, static vectorial potentials, the fundamental characteristics of which were investigated by the author in a preceding paper [cf. *Ref. Zh. Mekh.* 1955, Rev. 1457]. Since the inertia forces are included in the mass forces, the resulting integral equations are of the loaded type.

Courtesy Referativnyi Zhurnal L. S. Arzhanikh, USSR
Translation, courtesy Ministry of Supply, England

KHRISTOFOROV, V. V.

Hristoforov, V. V. Application of Green's functions to plane problems of the static theory of elasticity. Akad. Nauk Uzbek. SSR. Trudy Inst. Mat. Mech. 15 (1955), 131-141. (Russian)

For the first boundary value problem the displacements at interior points are expressed [illegible] and of the dilatation Θ on the boundary by means of Green's function for the Dirichlet problem. An integral equation for the boundary values of Θ is then obtained. A similar equation is given for the rotation [illegible] the second boundary value problem. Green's function [illegible] Neumann problem is used and a pair of integral equations for ω and Θ is obtained. [illegible]

KHRISTOFOROV, YE.

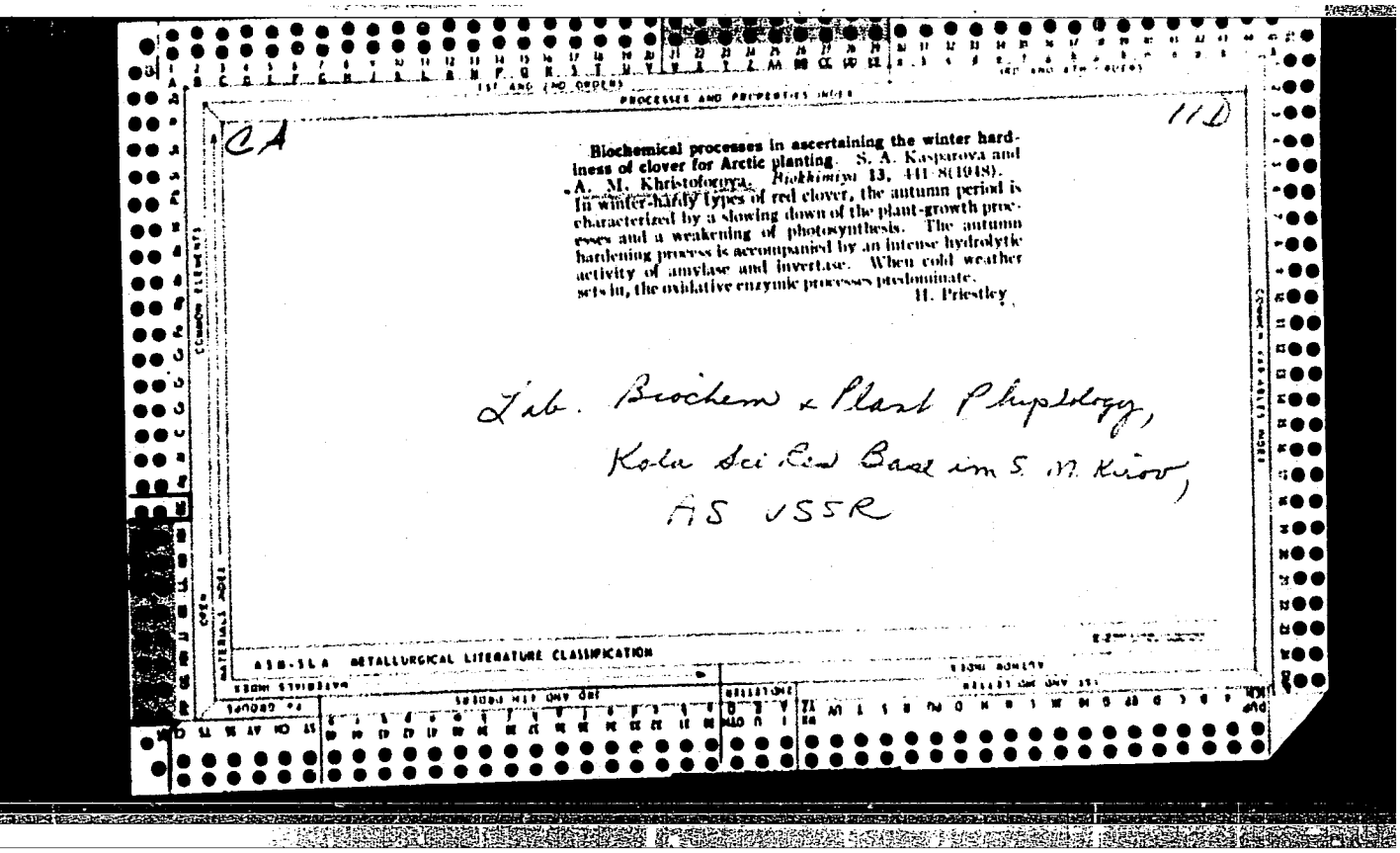
Savich, Evgeniy Frantsevich

Brigade leader of innovators, Tekh. molod., 20 No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

GRIGOR'YEV, Aleksandr Aleksandrovich; KHRISTOFOROV, Ye.R., red.; TIKHONOVA, I.M., tekhn.red.

[Party work at construction sites] Partiinaia rabota na stroike. Lenizdat, 1958. 58 p. (MIRA 12:6)
(Communist Party of the Soviet Union--Party work)
(Construction industry)



CA

11D

Biochemical processes in ascertaining the winter hardiness of clover for Arctic planting. S. A. Kasparova and A. M. Khristoforova. *Biokhimiya* 13, 441-8(1948). In winter-hardy types of red clover, the autumn period is characterized by a slowing down of the plant-growth processes and a weakening of photosynthesis. The autumn hardening process is accompanied by an intense hydrolytic activity of amylase and invertase. When cold weather sets in, the oxidative enzymic processes predominate.
H. Priestley

Lab. Biochem & Plant Physiology,
Kola Sci Res Base im S. M. Kirov,
AS USSR

A38-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHATALINA, A.S.; KHRISTOFOROVA, E.A.

Change in the cardiovascular system as a result of muscular activity under hot climate conditions. Nauch. trudy TashGU no.241. Biol. nauki no.44:111-121 '64.

(MIRA 18:7)

KHRISTOFOROVA, I.A.

Study of disease incidence in some districts. Zdrav. Tadzh. 7 no. 3:11-15 My-Je '60. (MIRA 14:4)

1. Iz Stalinabadskogo Instituta epidemiologii i gigiyeny.
(TAJIKISTAN--DISEASES--REPORTING)

ZHALYBIN, V.I.; SINEL'NIKOV, M.I.; MININZON, R.D.; MOSHKEVICH, Ye.I.; MURINA, K.N.; CHERNYAVSKAYA, S.G.; KHRISTOFOROVA, L.I.; POTAPOVA, V.P.

Nature of spiderlike pitting corrosion cracks of steel, and ways for their elimination. Stal' 25 no.10:941-944 O '65. (MIRA 18:11)

1. Institut "UkrNIISpetsstal'" i zavod "Dneprospetsstal'".

KHRISTOFOROVA, V.M.

A case of interstitial pregnancy with birth at term. Vop.okh.mat. i det. 1 no.4:88-89 Jl-Ag '56. (MLRA 9:9)

1. Iz ginekologicheskogo otdeleniya Bolashovskoy oblastnoy bol'nitsy.

(PREGNANCY, EXTRAUTERINE)

COUNTRY : USSR
CATEGORY : CULTIVATED PLANTS. General Problems.

ABS. JOUR. : REF ZHUR - BIOLOGIYA, NO. 4, 1959, No. 15548
INST. : Sci. Res. Inst. of Agriculture of the Extreme North.
TITLE : First Crops in Bringing Virgin Tundra Lands under Cultivation.

AUTHOR : Khristolyubov, S.P.

ORIG. PUB. : Byul. nauch-no-tekhn. inform. N.-i. in-t s. kh. krayn. Severa, 1957, No.2, 32-34

ABSTRACT In 1954-1956 at the Yamal'skaya experimental station studies were made in the selection of the first agricultural crops when bringing tundra lands under cultivation. Data are given on the crop yield of agricultural crops in the first 3 years of mastering the tundra soil and the soil's agrochemical characteristics before and after it was brought under cultivation. On the year after being put under cultivation, the tundra virgin lands can be used under perennial grasses or

CARD: 1/2

KHRISTOLYUBOVA, N. B.

KHRISTOLYUBOVA, N. B. -- "Experimental Investigations of the Regeneration of the Pancreas." Acad Sci USSR. Inst of Animal Morphology imeni A. N. Severtsov. Moscow, 1955. (Dissertation for the Degree of Candidate in Biological Sciences)

No 1

SO: Knizhnaya Letopis', 1956, pp 102-122, 124

AUTHOR KHRISTOLYUBOVA, N.B. PA - 3185

TITLE On the Sources of Islet Formation in Implants of the Pancreas. (K voprosu ob istochnikakh obrazovaniya ostrovkov v implantatakh podzheludochnoy zhelezy -Russian)

PERIODICAL Doklady Akademyi Nauk SSSR, 1957, Vol 113, Nr 3, pp 706-708 (U.S.S.R.)
Received 6/1957 Reviewed 7/1957

ABSTRACT The Pancreas of white rats of an age of from 1,5 - 4 months served as material. The method of LAZARENKO was used for the investigation of the processes occuring in the implement; the Implantation of glandular particles was, however, not carried out in subcutaneous connective tissues but in the fold of the mesentery. The implants were removed after 3,6 and 12 hours and 1-7, 9-11, 14, 15, 2o, 21, 3o, 6o, 75 days. In order to stimulate the development in implants of endocrinal glandular tissues a certain islet isufficiency was caused experimentally. For this purpose a resection of a part of the gland (up to 2/3) was carried out and glucose was introduced into the peritoneum before the implantation and after it (2o% solution, 5-7 cc daily for 9-27 days). The description of the experiments is given in the following and as a summary the acinar tissue of the pancreas is stated to form the source of the development of newly formed islets. This tissue is subject to some changes one of which is

Card 1/2 the symplastic stage. The change of the acinar tissue in islets is

On the Source of Islet Formation in Implants of the Pancreas.

promoted by a certain degree of islet insufficiency of the animal organism. This, however, is caused by a resection of a part of the gland and by the introduction of glucose into the peritoneum, was as stated above.
(With 1 illustration and 9 citations from Slavic publications).

ASSOCIATION Animal Morphologic Institute A.N.SEVERTSOV of the Academy of Science
PRESENTED BY SHMAL'GAUZEN I.I., Member of the Academy of the U.S.S.R.
SUBMITTED 18.12.1956
AVAILABLY Library of Congress
Card 2/2

20-119-1-46/52

AUTHOR: Khristolyubova, N. B.

TITLE: An Investigation of the Structure of the Cardiac Muscle Under the Electron Microscope (Izucheniye stroyeniya serdechnoy myshtsy v elektronnom mikroskope)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 1, pp.168-170 (USSR)

ABSTRACT: There exist comparatively few works on this subject. It was proved that the cardiac muscle according to its microscopic and submicroscopic structure is extremely similar to the transversely laid skeleton muscles. But essential differences exist. It is characteristic that in the tissue of the cardiac muscle the myofibrils lie at the periphery of the muscle fibers. Beside parallel myofibrils, branched and anastomosing ones exist. The cross striation as a rule is less distinct than in the skeleton muscles so that the boundary between individual disks can hardly be drawn (Ref 1). Finally double membrane structures - intercalary disks - occur which are often placed in steps. In this paper the cardiac muscle of the frog (Rana temporaria) was studied. The details of the

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An Investigation of the Structure of the Cardiac Muscle Under the Electron Microscope

structure of cells and nuclear structure (Figures 1 - 3b) are described. The influence of small doses of sublimate was also investigated. If not complete, they still bring about a partial coagulation of albumin, under conditions of a well marked ability of contraction (Figure 2). In the muscle fibers of the frog heart a very high quantity of sarcosoma occurs which as well lie between the myofibrils as, especially much, around the nucleus and near sarcolemmas. They are the carriers of the enzyme and vitamins which are necessary for the contraction (Refs 11-13). The sarcosoma are oval here or drawn out (Figure 3a, b). Their size is variable and sometimes attains up to 2,5 μ (Figure 3b). The sarcoplasma is hyaline, finely grained (Figure 1). The sarcolemma is visible as a fine line the individual layers of which cannot be distinguished (Figure 3a). Thus the opinion of different authors was confirmed that the structure of the cardiac muscle on the whole does not differ from the structure of the skeleton muscle: all components the latter is built of were found. The intercalary disks could not be determined, as they do not exist in the cyclostomes and amphibia. The high reactivity of the tissue of the cardiac muscle was proved by the influence of sublimate. There

KHRISTOLYUBOVA, N.B.

Ultrastructur of chromosomes. Izv.Sib.otd.AN SSSR no.2:86-85 '61.
(MIRA 14:3)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(Chromosomes)

KHRISTOLYUBOVA, N.B.; ZAGORSKAYA, N.Z.; VOLKOVA, R.M.

Investigating functional changes in specific sections of chromosomes from the salivary glands of Drosophila melanogaster. Izv.Sib.otd. AN SSSR no.12:87-91 '61. (MIRA 15:3)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(CHROMOSOMES) (ACETIC ACID)

KHRISTOLYUBOVA, N.B.

Controllable variation of the physiological activity in particular sections of giant chromosomes in the salivary glands of Drosophila as a result of the action of versene. Dokl.AN SSSR 138 no.3:681-682 My '61. (MIRA 14:5)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom I.I.Shmal'gauzenom.
(Acetic acid) (Chromosomes)

KHRISTOLYUBOVA, N. B.; ZAGORSKAYA, N. Z.; VOLKOVA, R. M.

Laws governing the inheritance of experimentally induced functional changes in giant chromosomes. Dokl. AN SSSR 147 no.6:1473-1475 D '62. (MIRA 16:1)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom Yu. A. Orlovym.

(CHROMOSOMES) (HEREDITY)

KHRISTOLYUBOVA, N.B.; DYATLOVA, A.I.

Electron microscopic study on nuclear and plasmatic relations in plant cells. Izv. SO AN SSSR no.4. Ser. biol.-med. nauk no.1:23-27'63. (MIRA 16:8)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(ELECTRON MICROSCOPY) (PLANT CELLS AND TISSUES)

KHRISTOLYUBOVA, N.B.

Ultrastructure of interphase nuclei during cell differentiation. Izv.Sib.otd. AN SSSR no.11:118-122 '62. (MIRA 17:9)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.

KHRISTOLYUBOVA, N.B.; KOVALENKO, A.I.

Changes in cell organelles at the various stages of the interphase in onion rootlet cells. Izv. SO AN SSSR no.8 Ser. biol.-med. nauk no.2:83-88 '64 (MIRA 18:1)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR, Novosibirsk.